Table 12.1 Estimated Emissions of Greenhouse Gases, 1980-2000

Year	Greenhouse Gases (million metric tons of gas)				Greenhouse Gases, Based on Global Warming Potential [1] (million metric tons carbon equivalent)				
	Carbon Dioxide [2]	Methane	Nitrous Oxide	HFCs PFCs SF_6	Carbon Dioxide	Methane	Nitrous Oxide	HFCs PFCs SF_6	Total
1980	4,783.8	R27.7	1.0	(s)	1,305	R159	82	R19	1,565
1981	4,661.2	R28.3	1.0	(s)	1,271	R162	84	R20	R1,538
1982	4,417.6	R28.7	1.0	(s)	1,205	R164	82	R15	1,466
1983	4,383.9	R28.5	0.9	(s)	1,196	R163	R78	R18	1,454
1984	4,619.0	R29.2	1.0	(s)	1,260	R167	85	21	1,532
1985	4,595.8	R29.5	1.1	(s)	1,253	R169	96	R19	1,537
1986	R4,602.6	R29.0	1.1	(s)	1,255	R166	R94	R20	R1,535
1987	4,753.6	R29.6	1.1	(s)	1,296	R169	R94	R21	R1,581
1988	4,961.8	R29.8	1.1	(s)	1,353	R171	91	R25	1,640
1989	R5,023.5	R30.1	1.1	(s)	R1,370	R172	96	26	R1,664
1990	R4,969.4	31.7	1.2	(s)	R1,355	R199	R94	R30	R1,678
1991	R4,917.7	31.9	1.2	(s)	R1,341	R200	R96	R28	R1,665
1992	R5,013.0	R31.8	1.2	(s)	R1,367	R200	R98	R29	R1,694
1993	R5,130.4	R31.0	1.2	(s)	R1,399	R194	R98	R30	R1,722
1994	R5,224.4	R31.0	1.3	(s)	R1,425	R194	R106	R32	R1,757
1995	R5,273.5	R31.1	1.3	(s)	R1,438	R195	R101	R35	R1,770
1996	R5,454.8	R29.9	1.2	(s)	R1,488	R188	R101	R39	R1,815
1997	R5,533.0	R29.6	1.2	(s)	R1,509	R186	R99	R42	R1,836
1998	R5,540.0	R28.9	1.2	(s)	R1,511	R181	R99	R46	R1,836
1999	R5,630.7	R28.7	1.2	(s)	R1,536	R180	R100	R45	R1,860
2000P	5,805.5	28.2	1.2	(s)	1,583	177	99	47	1,906

[1] Emissions of greenhouse gases were weighted based upon their relative global warming potential (gwp), with carbon dioxide gas equal to a weight of one, and were converted to carbon equivalent by dividing by 3.667. The use of updated estimates of gwp resulted in a number of revisions to previously published data. It is also important to note that revisions in estimated emissions result from revisions in energy consumption as well.

[2] Carbon dioxide emissions do not reflect the revised electric power statistics that are presented in other sections of the *Annual Energy Review 2001*.

R=Revised. P=Preliminary. (s)=Less than 0.05 million metric tons.

Notes: • HFCs = hydrofluorocarbons; PFCs = perfluorocarbons; and SF_6 = sulfur hexafluoride. • Emissions are from anthropogenic sources. Anthropogenic means produced as the result of human activities, including emissions from agricultural activity and domestic livestock. Emissions from natural sources, such as wetlands and wild animals, are not included. • Because estimation methods for greenhouse gases are currently being developed, data are frequently revised on an annual basis in keeping with the latest findings of the international scientific community. For some of the gases, such as carbon dioxide, revisions are a small percentage of the total (on the order of 1 percent), but for other gases, such as nitrous oxide, they may be on the order of 100 percent.

Web Page: http://www.eia.doe.gov/environment.html.

Sources: • 1980-1989—Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States,* annual reports. • 1990 forward—EIA, *Emissions of Greenhouse Gases in the United States 2000* (November 2001), Tables ES1 and ES2.